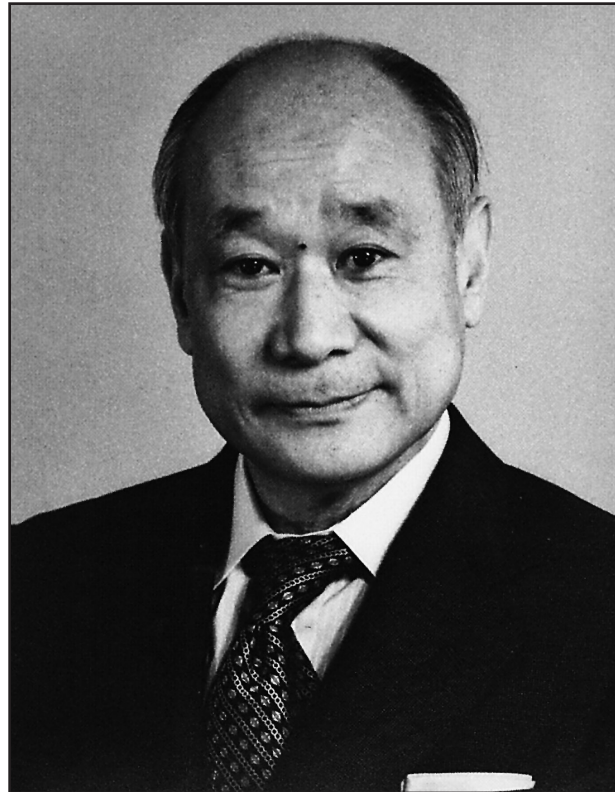


OBITUARY



Hiroshi Ando
(1923–2010)

Hiroshi Ando was born in Harajuku, Tokyo, Japan, on April 22, 1923, as the second son of four children of Masato Ando and Ayae Ando. He was educated at an elementary school and a junior high school in Tokyo, and went on to the School of Agriculture and Forestry in Mie in 1943. Just after entering that school, however, he was forced to be temporarily absent, because he served in World War II as a bomber pilot until 1945. His maternal grandfather, Manabu Miyoshi (1861–1939), was a prominent Professor of Botany in Tokyo Imperial University, introducing modern botany from western countries to Japan in the early 20th century. Ando once said that Miyoshi's profound knowledge of nature greatly fostered his early interest in insects. Three years after the War, he was admitted to the Department of Biology in Tokyo Bunrika University (present University of Tsukuba). After receiving his Bachelor's degree in 1951, he went to the Graduate School of Biology in that university and finished there in 1956. He married Chiyoko Maki in 1951 and there were one daughter: Tokiko (1953), and two sons: Manabu (1955), and Shuhei (1961). In 1958, he was appointed Assistant Professor of Zoology at Sugadaira Biological Laboratory of Tokyo Kyoiku University (present Sugadaira Montane Research Center, University of Tsukuba). To take up this post, he and his family moved from Tokyo to Ueda, a city at the foot of Sugadaira Plateau in Nagano Prefecture, and he lived there throughout his life. This is where he died of lung cancer on March 30, 2010.

Hiroshi Ando began to study comparative embryology of insects, especially of Odonata, immediately after admission to the graduate school under Professor Hidemitsu Oka (1902–1982). Since Professor Oka was not an expert in insect embryology, Ando learned much of insect embryology from a book "Embryology of Insects and Myriapods" written by Oskar A. Johannsen and Ferdinand H. Butt in 1941. Ando often said that this book also was a great teacher for him. He received his PhD from Tokyo Kyoiku University in 1961, and was then promoted Associate Professor of Zoology in 1965 and Professor in 1974. He was also appointed Director of Sugadaira Montane Research Center, University of Tsukuba, in 1984, getting the job until his retirement in 1987 (Professor Emeritus of University of Tsukuba). In 1988 he was invited to be Professor of Biology in Seisen Women's Junior College, and retired the college in 1993.

During these years Professor Ando not only accomplished his own research subject chiefly on the comparative embryology of Odonata, but also raised a number of researchers of insect embryology. He and his about 20 students co-

authored about 200 publications of insect embryology covering 17 insect orders. In 1962, he published his first book “Comparative Embryology of Odonata with Special Reference to a Relic Dragonfly *Epiophlebia superstes* Selys”. It was a very significant publication in insect embryology chiefly for three aspects. First, the embryogenesis of 30 odonatan species from 10 families was described in the book; that number of taxa treated in an article of insect embryology was unprecedented. Second, the book testified to the truth of the Tschuproff’s (1903) observation that, in Odonata, the epithelium of the middle part of the midgut originates in yolk cells; the mode of midgut epithelium formation is similar to that of apterygotan Thysanura. Third, the phylogenetic relationships of ten odonatan families were inferred only from embryological features; the first time such a task attempted in insect embryology. For this work, he was honoured with the Zoological Society of Japan Award in 1965. In insects other than dragonflies, he was interested in some small but enigmatic insect orders such as Embioptera, Grylloblattodea, and Megaloptera whose embryology is little known or entirely unknown, and he and his students clarified the developmental processes of these insects. And he was more than 60 years old when he co-edited three tomes; “Recent Advances in Insect Embryology in Japan” (1985), “Recent Advances in Insect Embryology in Japan and Poland” (1987), and “Insect Embryology, Volume 1 (in Japanese)” (1996). In particular, the book “Insect Embryology” was conceived to describe the embryogenesis of all insect orders including Protura and Mantophasmatodea. His bulky publications thus provided the field of insect embryology with world-wide merit. Unfortunately, he died in the middle of editing the Second Volume of this book. The project was entrusted to his students for its publication. Most of the Japanese students in this field were much inspired by his deep and profound knowledge of comparative embryology. The group of his students has come to be known globally as the Ando School, which he felt a great honour.

Professor Ando was a man of action, and friendly with everybody. He set up the Study Group of the Students of Arthropodan Embryology in Japan in 1963 together with his colleagues, and presided over an annual meeting for the group. In 1982 he created a formal academy out of this the Study Group, The Arthropodan Embryological Society of Japan, and founded the journal *Proceedings of the Arthropodan Embryological Society of Japan* in this year. He served as the first president of the Society until 2002, and then was elected honorary president of the Society. As the president, he was eager to be in close contact with many foreign authorities in embryology, developmental and reproductive biology of arthropods, such as Donald T. Anderson in Australia, Czeslaw Jura in Poland, Kraus Sander in Germany, and late Dr. Ryuichi Matsuda in Canada, and accepted those researchers as special guest members of the Society. Professor Ando himself also served as an Associate Editor on the Editorial Board of the *International Journal of Insect Morphology and Embryology* since its inception in 1971 until its close in 1999. Although he had no experience of studying abroad for years, he was often invited to international meetings such as International Congress of Entomology, and served as a section chairman or organizer of several symposiums. He always encouraged his students saying “You should become somebody respected as a world-class researcher”. On a local scale, he was a naturalist who was also very keen to promote regional entomology and natural history in Japan, especially in Sugadaira and its suburbs, and was elected President of The Entomological Society of Shinshu in 1989. As a teacher of the College for Senior Citizens in Ueda City, continued to teach entomology to students even over the age of 90, while he was over 80 years old. In 2000, he was also awarded the Order of the Sacred Treasure, Gold Rays with Neck Ribbon, for his academic and educational achievement from the Emperor Heisei.

Professor Ando’s interests were even more extensive. He loved traditional Japanese art and culture, and in particular collected many old Japanese ceramics and pottery. His enthusiasm for them led him to publishing several books such as *Shinshu no Yakimono* (Pottery in Shinshu).

Professor Ando was a warm-hearted and very kind person and will be remembered forever by his many friends, students, and colleagues.

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SELECTED LIST OF PUBLICATIONS ON INSECT EMBRYOLOGY AND MORPHOLOGY

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